

CLAIMS

1. Junction for a conveyor belt, consisting of two half-junctions, made from vulcanised rubber or a plastic material, each solidly attached respectively to one end of the conveyor belt, the half-junctions having a generally flat shape and a maximum thickness that is equal to or slightly less than that of the end of the conveyor belt with which it is solidly attached and having matching shapes that allow them to be interlinked such as to form a junction with a thickness that is at most equal to that of the ends of the conveyor belt, said two half-junctions comprising a flexible core, textile or otherwise, and being respectively equipped with cup inserts and bush inserts allowing the passage of assembly means, of the rod type, arranged perpendicularly to the general plane of the junction,
- characterised in that
- the solid attachment of each of the two half-junctions (3, 4) with the corresponding conveyor belt end is provided, on the one hand, by flexible cores (6), textile or otherwise, of the corresponding ends (1 or 1') of the conveyor belt, each of the cores (6) extending towards the inside of each half-junction (3 or 4) forming a fold (8) of the side of the free edge, or front edge of each of the half-junctions (3 or 4) next to said free edge, the male half-junctions (3) comprising two levels, a top level (22) and a bottom level (23), the top level (22) containing the folded core and the bottom level (23) only comprising the constituent material, in which the front edge (16') has substantially the same shape as the front edge (16) of the top level (22), but is shifted towards the rear at least by the distance that separates the front edge (16) from the cup inserts (13) that are the furthest from the front edge (16), and the female half-junctions (4) comprising two levels, a top level (20) that only comprises the constituent material and in which the shape of the front edge (16'') matches that of the front edge (16) of the matching male half-junctions, and a bottom level (21) containing the folded core (6, 7) and the bush

inserts (14), in which the front edge (16") is shifted towards the front in relation to the front edge (16'') of the top level (20), its shape matching that of the front edge of the bottom level (23) of the male half-junction,

5 - the solid attachment of the male (3) and female (4) half-junctions with each other is provided by rod fasteners, such as rivets or studs, but preferably by means of screws (15), in which the head rests against the bottom of the cup inserts (13) and in which the thread is screwed into the
10 relevant bush inserts (14), which are threaded on the inside, or smooth in the case that self-tapping screws are used, with neither the heads of the screws (15) nor their opposite ends sticking out beyond the outside surfaces of the half-junctions at the points where the screws are
15 inserted.

2. Junction for conveyor belt according to claim 1, characterised in that the ends of the conveyor belt (1, 1') manufactured at the same time as the male (3) and female (4) half-junctions are still separate from a conveyor belt
20 during the manufacturing stage of the half-junctions.

3. Junction for conveyor belt according to claim 1, characterised in that the bush inserts (14) are made in the female half-junctions (4) so that the bush (14") drives the edges of the hole of the two sections of the core (6, 7)
25 that surround the bush perpendicularly in the general plane of these layers and are therefore solidly attached to the female half-junction (4) in two perpendicular planes by the constituent material and the sections of the core that surround them

30 4. Junction for conveyor belt according to claim 3, characterised in that the bush inserts comprise a section forming a flat flange (14') that is solidly attached to the actual bush section and arranged perpendicularly to the end of the bush (14") that is the closest to the outside surface
35 of the bottom level (21) of the matching female half-junction (4), only being separated from this surface by a

thin layer of the constituent material, these flanges extending in a plane that is parallel to the general plane of the half-junction and being solidly attached to the constituent material that surrounds them

5 5. Junction for conveyor belt according to claim 4, characterised in that the cup inserts (13) are made in the male half-junctions (3) so that the cup rests closely, by its sections that border the central hole, against the edges of the hole made in two sections of the core (6, 7), with
10 which it is solidly attached by the surrounding constituent material

15 6. Junction for conveyor belt according to any one of the preceding claims, characterised in that the front edge (16) of the top level (22) of the male half-junction consists of a succession of front edge sections (16pp) perpendicular to the longitudinal direction of the male half-junction, separated from each other in the longitudinal direction and front edge sections that extend longitudinally, each of these front edge sections (16pp) perpendicular to the
20 longitudinal direction being connected to the closest front edge section or sections that is/are perpendicular to the longitudinal direction shifted towards the rear by front edge sections (16pl) that are parallel to the longitudinal direction, thus forming a broken line, the shapes of the
25 front edge of the bottom level (23) of the male half-junction (3), of the front edge of the top level (20) of the female half-junction (4) and of the front edge of the bottom level (22) of the female half-junction (4) resulting, as defined above, from the shape of the front edge of the top
30 level (22) of the male half-junction (3), the core (6) being slit longitudinally over the distances required to form shifted folds and the shifted folded sections corresponding to the shifted front edge sections

35 7. Junction for conveyor belt according to claim 6, characterised in that the front edge of the male half-junction (3), in an outline sketch, is in the shape of a

broken line arranged overall obliquely across the half-junction.

8. Junction for conveyor belt according to claim 6, characterised in that the front edge of the male half-junction (3), in an outline sketch, is in the shape of a broken line arranged in an overall V shape, the point pointing towards the front.

9. Junction for conveyor belt according to claim 6, characterised in that the front edge of the male half-junction (3) alternately comprises first front edge sections (16pp) perpendicular to the longitudinal direction and second front edge sections (16pp) perpendicular to the longitudinal direction shifted towards the rear in relation to the first front edge sections (16pp).

10. Junction for conveyor belt according to any one of the claims from 1 to 5, characterised in that the front edge of the top level (22) of the male half-junction (3) is in the shape of a V with its arms forming straight lines, the point of the V pointing towards the front, the shapes of the front edge of the bottom level (23) of the male half-junction (3), of the front edge of the top level (20) of the female half-junction (4) and of the front edge of the bottom level (23) of the female half-junction (4) resulting from the shape of the front edge of the top level of the male half-junction as defined in the parent claim, and the folds of the core (6) being arranged obliquely in relation to the longitudinal direction, following the arms of the V of the shape of the front edges towards the rear.

11. Junction for conveyor belt according to any one of the claims from 1 to 5, characterised in that the front edge of the top level (22) of the male half-junction (3) is overall perpendicular to the longitudinal direction, with the exception of one or more V-shaped indentations (19, 19'), the point of the V pointing towards the rear, which can also be in the shape of a concave curve, the core sections (6, 7) being indented also, following the shape towards the rear of

the indentations of the front edges of the top level (22) of the male half-junction (3), the shapes of the front edges of the bottom level (23) of the male half-junction (3) and of the top level (20) and of the bottom level (21) of the female half-junction (4) resulting from the shape of the front edge of the top level (22) of the male half-junction (3) as defined in the parent claim, and the core sections (6 and 7) of the bottom level (21) of the female half-junction (4) being indented following the shape of the indentations of the front edge of this bottom level (21) of the female half-junction (4) towards the rear.